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SMITHSONIAN INSTITUTION
BUREAU OF ETHNOLOGY: J. W. POWELL, DIRECTOR

WORK

IN

MOUND EXPLORATION

OF THE

BUREAU OF ETHNOLOGY

BY

CYRUS THOMAS

WASHINGTON
GOVERNMENT PRINTING OFFICE
1887

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BUREAU OF ETHNOLOGY: J. W. POWELL, DIRECTOR

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WORK IN MOUND EXPLORATION OF THE BUREAU OF ETHNOLOGY.

By Cyrus Thomas.

It seems desirable at the present time to make a statement explaining the plans and describing the work of the mound exploring division of the Bureau of Ethnology, especially in view of the fact that neither the plans nor the results of this work seem to be clearly understood by all who are interested in the study of American archæology. It was scarcely expected that a clear apprehension of these plans and the work would be gained in advance of the publication of a full report of the same; but, since such a report is well advanced towards completion and since the collections thus far made have been turned over to the National Museum, where they are open to the public, a brief preliminary statement of the plan being pursued and the work thus far accomplished seems appropriate now.

In undertaking the exploration of the mounds of our country upon an extensive scale, the operations should be carried on according to some definite plan. Three only seemed worthy of consideration, viz:

First. That which may be termed the systematic plan, which contemplates a comprehensive and accurate survey of all the ancient works of the country and the preparation of maps and illustrations showing their location and character, to be followed by thorough explorations and investigations of these monuments.

Second. That which may be termed the local plan, which commences with a limited locality and confines operations to it until all the ancient works in it are thoroughly examined, figured, mapped, and described in detail and the collections obtained there are studied; then moving to another section.

Third. The comprehensive plan, or plan of general study, in which the chief objects are to search for and study the various forms and types of the works and minor vestiges of art and to mark out the different archæological districts as disclosed by investigation. This plan permits the carrying on of operations at various points simultaneously or removal from place to place as the types and forms of a section are satisfactorily determined.

In any one of these plans the work which has been and is being done by others should be taken into consideration so far as deemed trustworthy, especially in connection with the third plan.

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Viewing the plans solely from a working standpoint, without considering the conditions and limitations under which the work has necessarily been carried on by the Bureau or its relation to other subjects undergoing simultaneous investigation, it is conceded that the first and second are more systematic and more scientific than the third, the first being entitled to preference in the latter respect. The third is, however, the plan under which the work has actually been done, and, as the wisdom of adopting it has been, to some extent, questioned, it may not be amiss to give here the reasons for its adoption:

First. A thorough and accurate survey of all the ancient works of the country and the preparation of maps and charts showing their location and character, accompanied by full descriptions, would require the entire appropriation of the Bureau for at least ten years. To have attempted a work of such magnitude with the means allowed the division—though as liberal as proper regard to the other investigations of the Bureau justified—would have entailed a great waste of money, as no adequate results could possibly have been obtained. Moreover, in the mean time, the valuable contents of the mounds, which, after all, furnish the chief data bearing upon the problems relating to the prehistoric times of our country, would have passed into the hands of private collectors, or would have been scattered, and thus in a great measure lost to science.

Second. One leading object the Bureau and the Smithsonian Institution have had in view in this work is to collect material and data which scientists may study and by means of which the various questions relating to the pre-Columbian age of this continent may ultimately be solved. It was apparent that by neither the first nor the second plan could as much be accomplished in this direction in a reasonable length of time as by the third, especially if the variety of types and forms was to be taken into consideration. Climatic obstacles rendered the second plan impracticable if the field work was to be carried on throughout the year, as desired.

The questions relating to prehistoric America are to be determined not alone by the study of its ancient monuments, but by the study also of the languages, customs, art, beliefs, and folk-lore of the aborigines. Only by such a comprehensive study can the exact relations of the ancient archæological remains to the historic Indian tribes be made apparent.

Maj. J. W. Powell, the Director of the Bureau, taking this comprehensive and scientific view of the subject, saw at the outset the necessity of deciding as soon as possible the question "Were the mound builders Indians?" If a careful examination and study of the works and their contents should result in deciding it in the affirmative, then the investigation of the questions relating to their objects and uses would be merged in the study of the former habits, customs, art, beliefs, &c., of the Indians. There would then be no more blind groping by

archæologists for the thread to lead them out of the mysterious labyrinth; the chain which binds together the prehistoric and the historic ages of our country would then be known; a thousand and one wild theories and archæological romances would be relegated to the shades of oblivion; and, the relations of all the lines of investigation to one another being known, these lines would lend common aid in solving many of the problems which have hitherto seemed destined to remain in complete obscurity. Should the result of the examination give a decidedly negative answer to the question, one broad field at least would be forever closed and the investigations would be limited to other lines. In either case a great step toward the ultimate solution would be made and the work in the various branches bearing on the numerous problems materially restricted.

The Director was desirous, therefore, of having the question definitely settled in one way or the other, as *it is the pivot* on which all the other problems must turn, and this he believed could be done without awaiting the long delay necessarily attending the adoption of the first or second plan of operations. It seemed apparent that by the third plan the various types and forms of the antiquities would be discovered and their relations to one another determined in a shorter time than by any other method. By following this plan and using proper care to note without bias all the facts ascertained and to collect the specimens discovered, the data would be preserved, without prejudice to other theories, for the use and benefit of archæological students. Moreover, by having the field work carried on in the northern sections in the summer and in the southern sections during the winter months, it would suffer little or no interruption from climatic obstacles.

Having decided upon the plan to be adopted, the next step was to determine the area to which operations should be confined. As will be seen by what precedes, it was assumed that the antiquities of the country pertain to different archæological districts, which by proper examination and study might perhaps be outlined geographically with reasonable certainty. But these, if determined, would relate chiefly to tribal distinctions and form but parts of one or more larger, comprehensive ethnological sections. As that part of the United States east of the Rocky Mountains, together with the adjoining portions of the British Possessions, appears to form, so far as the eastern, southern, and western boundaries are concerned, a tolerably well marked archæological section, that part of this area within the United States was selected as the field of operations.

That the results have fully justified the most sanguine expectations and, in connection with the investigations of other workers in the same field, have settled the question, so long in controversy, relating to the authorship of these monuments, it is confidently believed, will be conceded when the general report is published.

Premising that accuracy as to details and statements, without regard to their bearing on this or that theory, has been considered the chief and all important point to be kept constantly in view in all the operations of the division, the methods of work developed (except during the first year, when want of experience caused some of the details of accurate work to be omitted) have been substantially as follows:

A small division was organized in 1882 to which the work of exploring and examining the antiquities in that part of the United States east of the Rocky Mountains was assigned. This division was placed in my charge, and one clerical and three field assistants were assigned me, with the occasional addition of a temporary field assistant.

The localities examined were determined, to a certain extent, by circumstances, such as the character of the seasons, the permission of the owners to examine the works, &c.; but the general plan, so far as it could be carried out advantageously, was to work on three primary north and south lines: the first and principal one, the immediate valley of the Mississippi from Wisconsin southward; the second, from Ohio southward through Kentucky to Mississippi; and the third, in the valleys of Eastern Tennessee and Western North Carolina, thence southward through Georgia and Alabama to Florida. This program has as yet been only partially carried out, the second line having received but comparatively little attention. Sections which had been somewhat carefully worked over, and of which the types and forms are tolerably well known, were generally passed by.

In the field work it has been the custom, first, to make a full and correct description of the groups examined, giving the topography of the immediate locality, the forms, character, and dimensions of the works and their relations to one another, accompanying these descriptions by diagrams, maps, and figures drawn by the assistants. Each mound explored is first measured, and whenever it varies from the ordinary conical type a figure of it is made. As the exploration proceeds the character and thickness of the strata, the exact positions of the skeletons and relics found in it, and all other items deemed interesting or important are noted at the time in a memorandum book kept at hand for this purpose. In most cases where important finds are indicated outline figures of both the horizontal and the vertical sections are drawn, on which the positions of the skeletons and relics are marked as found. The diagrams and sections of mounds which will be given in the report (one of which, showing the relative positions, horizontally, of the skeletons in an East Tennessee mound, is here presented in Fig. 1) are not imaginary nor are they made from memory. As the skeletons are found and noted in the memorandum book, each is numbered both in the book and on the sketch. In the description opposite the number in the book the particulars regarding the skeleton are given and mention is made of any specimens found with it. This is given in addition to the general

description or field report rendered by the assistant, unless incorporated in it. Three of the models prepared by the artists of the Bureau for the New Orleans Exposition and made entirely from these descriptions and figures are now on exhibition in the National Museum.

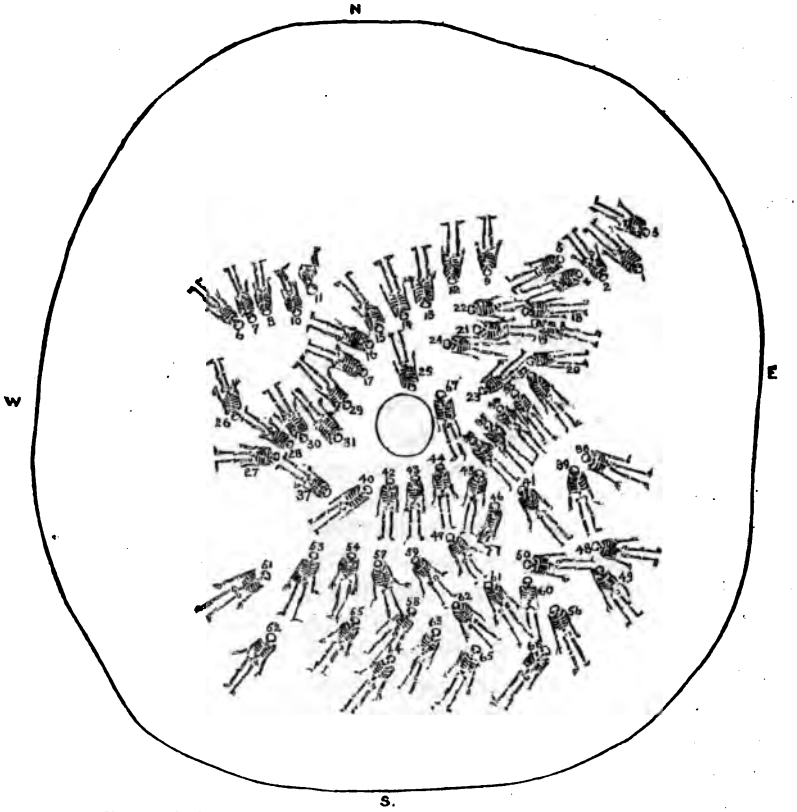

FIG. 1.—Relative positions of skeletons in an East Tennessee mound.

In order to preserve the data regarding the specimens, notes are made at the time they are collected stating where they were found, whether in mounds, in graves, or on the surface, and how obtained, and by whom. The collector's field numbers are marked on the specimens, and corresponding lists are made and transmitted with each shipment. All collections are sent direct to the Bureau of Ethnology, addressed to "Maj. J. W. Powell, Director, Washington, D. C.," thus insuring an official record of each shipment. There they are opened, examined, and compared with the field lists and carefully catalogued, the field numbers being inserted and the numbers of the Bureau series being added. They are then turned over to the National Museum and the Smithsonian numbers are placed upon them. In order to insure accuracy the Smithsonian numbers are placed upon them and the Bureau and Smithsonian cataloguing is done before the actual removal and distribution among the

departments to which they go in the National Museum. This affords opportunity for a careful comparison of the catalogues with each other and with the specimens. The final catalogues contain not only the collector's, Bureau, and Museum numbers, which form checks upon one another, but also the name of the article, the locality, the collector's name, and remarks indicating the conditions under which each was found. These particulars are, of course, incomplete in reference to specimens purchased or donated.

As an illustration the heading of the columns and one line from the general catalogue are given here:

Collector's number.	Bureau number.	Smithsonian number.	Name of article.	Locality.	Collector.	Remarks.
398	6,832	116,021	Boat-shaped pot ..	Lenoir group, Loudon Co., Tenn.	John W. Emmert..	From mound No. 2, by skeleton No. 49.

Two copies of this catalogue are made, one to be retained by the Bureau, the other to be transmitted with the specimens to the Secretary of the Smithsonian Institution for use in the National Museum.

Although the specimens go into the general collection of the National Museum they are so carefully marked and numbered that by reference to the catalogue any one, under the systematic arrangement adopted in the archæological division of the Museum, can easily be picked out, and the precise locality in which and circumstances under which it was found can be ascertained. It may not be amiss to add that the collections made by the Bureau are kept well in hand until this accuracy is assured and the duplicate catalogues are made out and compared, so that antiquarians and students of American archæology may rely implicitly on what is stated in regard to them. By reference to the forthcoming report all the particulars known regarding them, as well as all the facts ascertained in reference to the works from which they were obtained, will be found.

The sections in which operations have chiefly been carried on are as follows: Southwestern Wisconsin and the adjoining sections of Minnesota, Iowa, and Illinois, the northeastern part of Missouri, the western part of Southern Illinois, Southeastern Missouri, the eastern part of Arkansas, certain points in Northern and Western Mississippi, the Kanawha Valley of West Virginia, East Tennessee, Western North Carolina, Northern Georgia, and a few points in Northern Florida. Some work has also been done in New York, Ohio, Kentucky, West Tennessee, Alabama, and Southwestern Georgia.

Hundreds of groups have been examined and, in most cases, surveyed, platted, and described. Over two thousand mounds have been explored, including almost every known type as to form, from the low, diminutive, circular burial tumulus of the North to the huge, truncated,

earthen pyramid of the South, the embankment, the effigy, the stone cairn, house site, &c. Every hitherto known variety as to construction, as well as quite a number decidedly different in details, has been examined. Some of the latter are very interesting and furnish important data. Particular attention has been paid to this branch of the work, because the mode of construction and the methods of burial in the ordinary conical tumuli furnish valuable data in regard to the customs of the builders and aid in determining the archæological districts. Many ancient graves and cemeteries and several caches and cave deposits have also been explored.

The number of specimens obtained by the division since its organization is not less than thirty-eight thousand; fully one-half of these were discovered by the assistants during their explorations; the remainder were obtained by donations and purchase, though not more than $500 have been expended by the Bureau for this purpose.

The specimens procured by the field assistants in person constitute by far the most valuable portion of the collection, since the particulars regarding their discovery and surroundings are known. Among them will be found not only nearly every variety as to material, form, and ornamentation hitherto obtained in that part of the United States east of the Rocky Mountains, but also a considerable number of new and interesting kinds. But, notwithstanding the success of the division in this respect, not a single stone or tablet with anything like letters or hieroglyphics inscribed on it, by which linguists might be able to judge of the language of the mound builders, has been discovered.

Some singular and rather unexpected discoveries, however, have been made, which it may not be amiss to mention before giving a brief account of the collections. From a mound in Wisconsin were obtained a few silver crosses, silver brooches, and silver bracelets, one of the last with the word "Montreal" stamped on it in plain letters. These evidently pertained to an intrusive burial. In another Wisconsin mound, which stands in the midst of a group of effigies, was found, lying at the bottom on the original surface of the ground, near the center, a genuine, regularly-formed gunflint. In another, in Tennessee, some six feet high and which showed no signs of disturbance, an old fashioned, horn-handled case knife was discovered near the bottom. Far down in another of large size and also in comparatively modern Indian graves, at widely different points, have been found little sleigh-bells, probably what were formerly known as "hawk bells," made of copper, with pebble and shell bead rattles, and all of precisely the same pattern and finish. From a group in Northern Mississippi, in the locality formerly occupied by the Chickasaw, were obtained a silver plate, with the Spanish coat of arms stamped upon it, and the iron portions of a saddle. At the bottom of a North Carolina mound parts of an iron blade and an iron awl were discovered in the hands of the principal personage buried therein; with these were engraved shells and polished celts.

At the bottom of an undisturbed Pennsylvania mound, accompanying the original interment, of which but slight evidences remained, was a joint of large cane, wrapped in pieces of thin and evenly wrought silver foil, smoothly cut in fancy figures. In addition to these, the assistants have obtained from mounds such things as brass kettles with iron bails, brass wire, wooden ladles, glass beads, &c. Some of these things clearly pertained to intrusive burials, but a large portion of them were evidently placed in the mounds at the time they were constructed and with the original interment, as shown by their position when discovered.

Of the collections, perhaps the most important portion in an archæological view is the pottery, of which some fourteen or fifteen hundred vessels have been obtained, including most of the known varieties and several that are new as to form and ornamentation. Among these are two or three full faced pots, of which but a single specimen had been previously discovered. This collection, which is being carefully studied by Mr. W. H. Holmes, it is believed will be found to contain most, if not all, of the hitherto known types of textile impressions, as well as some new ones.

An unusually large number of polished and picked celts have been secured, including every known pattern and variety yet found in the area investigated. A special value attaches to this collection of celts from the fact that it has been mostly obtained from mounds and affords a means of comparing true mound specimens with surface finds.

The number of stone pipes obtained is proportionally large, including a good portion of the known forms and several that are new. But the most important fact connected with this part of the collection is that it so supplements the collections in this line made by others that with them it enables the archæologist to trace the evolution of the comparatively modern and historic form from the "monitor," or supposed earliest mound pipe. The record of localities whence they have been obtained also indicates geographically the line of this evolution and, so far as the testimony bears upon the question, gives a decided negative to the supposition that the Ohio pipe making mound builders went southward to the Gulf States.

A fair number of copper articles, including nearly all the types hitherto known, are in the collection. In addition to these, two new and decidedly the most important types yet discovered have been unearthed. These, as is known to the public through articles published in Science, are large thin and even plates, stamped with elaborate figures, evidently of Mexican or Central American designs.

The collection of engraved shells obtained from mounds probably exceeds in number, variety, and importance any other in the country. Several of them will be found illustrated in Mr. Holmes's paper, entitled "Art in Shell," published in the third annual report of the Bureau.

The specimens of textile fabrics and remnants of matting though not numerous are important and valuable. One of the assistants obtained

from a cave deposit in Tennessee, where the burial had taken place in historic times, certainly not over a hundred years ago, textile fabrics and matting quite well preserved. The mat, which is made of cane, has a broad colored submarginal stripe, is almost entire, is well preserved, and is made precisely as the fragments found in mounds are made. The piece of textile fabric, nearly two feet square and well preserved, was in an unfinished state when buried, and was formed in the woven portion by a stitch supposed to be peculiar to the mound builders, the pattern of which is presented by the impressions on many pieces of typical mound pottery. Nor will the reader be disposed to doubt the opinion expressed as to the recency of the burial when we add that with these relics were the bones of a dog from which the skin had not all decayed. With the cloth and matting were also the bone implements used in weaving.

The collection of chipped flint implements, stone axes, discoidal stones, gorgets, &c., is large. Among the stone articles are parts of two well made stone images which must have been nearly half life size. Bone implements, shells, &c., are in fair proportion. Large numbers of shell beads have been discovered in almost every section and a few pearls have also been obtained, but the assistants of the Bureau have not been so fortunate as to discover anything like the immense number of the latter reported from an Ohio mound.

Judging by all the data so far obtained by the Bureau, together with that from other workers in the same field, the following conclusions appear to be fully justified:

First. That the mound-builders of the area designated consisted of a number of tribes or peoples bearing about the same relation to one another and occupying about the same culture status as the Indian tribes inhabiting the country when first visited by Europeans. This is proven not only by the differences in the form of the works of the different districts and in the modes of their construction, in the methods of burial, and in the form and ornamentation of the minor vestiges of art, but also by the numerous evidences everywhere seen of tribal warfare and the means of defense adopted.

Second. That the archæological districts, as determined by the investigations of the mounds and other ancient works and remains, conform to a certain extent to the localities of the tribes or groups of cognate tribes of Indians at the time of the discovery. It is true that there are evidences of migrations and changes and that the rule holds good only in a general sense; yet the agreements in this respect are sufficient to justify the use of the facts as data in arriving at a conclusion regarding the origin of these works.

Third. That nothing trustworthy has been discovered to justify the theory that the mound builders belonged to a highly civilized race or that they were a people who had attained a higher culture status than

the Indians. It is true that works and papers on American archæology are full of statements to the contrary, which are generally based on the theory that the mound builders belonged to a race of much higher culture than the Indians. Yet, when the facts on which this opinion is based are examined with sober, scientific care, the splendid fabric which has been built upon them by that great workman, imagination, fades from sight.

Fourth. That each tribe adopted several different methods of burial, these differences in methods depending, in all probability, to some extent, upon the relative position, social standing, and occupation of the individuals. To justify this conclusion it is only necessary to mention the frequent occurrence of two or three different modes of burial in a single group of similar mounds.

Fifth. That the custom of removing the flesh before the final burial prevailed very extensively among the mound builders of the northern districts and was not uncommon among those of the southern districts. The proofs of this custom are so abundant and conclusive that it cannot be doubted. Not only are found the bones of the common people, which have been gathered together and cast into a promiscuous heap with a mound built over them, but graves formed of stone slabs are frequently met with, of less than two feet in length and one in width and depth, containing the bones of an adult. The bundled skeletons and skeleton burials alluded to by the old Jesuit fathers are frequently brought to light during the exploration of the northern mounds. It is a very common error to suppose that these bone filled mounds are the burial places of warriors slain in some great battle; the condition and the relations of the bones show beyond question that they were buried after the flesh had been removed, and sometimes after long exposure to the air.

Sixth. That usually, or at least very often, some kind of religious or superstitious ceremony was performed at the burial, in which fire played a conspicuous part. Notwithstanding the very common belief to the contrary, there is no evidence whatever that human sacrifice, in the true sense, was practiced. It is possible that cremation may have been resorted to, to a limited extent; yet the burning of body or bones appears to have been oftener accidental than intentional.

Seventh. That in the southern districts the large flat topped mounds were occupied, as a general rule, by the council houses and the residences of the chiefs and principal personages of the tribes. Mound testimony and history are in perfect accord in reference to this point.

Eighth. That in some of these southern districts, especially those of the valley of the Lower Mississippi, where the bottoms are low, it was the custom to erect dwellings on low mounds apparently constructed for this purpose, and when deaths occurred to bury in the floors of these dwellings, burn the houses, and heap mounds over them before they were entirely consumed or while the embers were yet smoldering. The houses in these districts appear to have been constructed of upright

posts set in the ground, to have been lathed with cane or twigs and plastered with clay, having the roofs thatched precisely as described by the early French explorers.

Ninth. That the links discovered directly connecting the Indians and mound builders are so numerous and well established that there should be no longer any hesitancy in accepting the theory that the two are one and the same people.

Tenth. That the statements of the early navigators and explorers as to the habits, customs, circumstances, &c., of the Indians when first visited by Europeans are largely confirmed by what has been discovered in the mounds and other ancient works of our country. This is especially true as regards the discoveries made by the Bureau assistants in Arkansas, Georgia, and other Southern States. They bear out even to details the statements of the chroniclers of De Soto's expedition and of the early French explorers of the valley of the Lower Mississippi.

Eleventh. The evidence obtained appears to be sufficient to justify the conclusion that particular works and the works of certain localities are to be attributed to particular tribes known to history, thereby enabling the archæologist to determine in some cases, to a limited extent, the lines of migration. For example, the proof is apparently conclusive that the Cherokee were mound builders and that to them are to be attributed most of the mounds of East Tennessee and Western North Carolina; it also renders it probable that they were the authors of the ancient works of the Kanawha Valley in West Virginia. There are also strong indications that the Tallegwi of tradition were Cherokee and the authors of some of the principal works of Ohio. The proof is equally conclusive that to the Shawnee are to be attributed the box-shaped stone graves, and the mounds and other works directly connected with them, in the region south of the Ohio, especially those of Kentucky, Tennessee, and Northern Georgia, and possibly also some of the mounds and stone graves in the vicinity of Cincinnati. The stone graves in the valley of the Delaware and most of those in Ohio are attributable to the Delaware Indians. There are sufficient reasons for believing that the ancient works in Northern Mississippi were built chiefly by the Chickasaw; those in the region of Flint River, Southern Georgia, by the Uchee; and that a large portion of those of the Gulf States were built by the Muskokee tribes. The evidence obtained is rendering it quite probable that the Winnebago were formerly mound-builders and the authors not only of burial tumuli, but also of some of those strange works known as "effigy mounds," so common in Wisconsin. That most of the ancient works of New York must be attributed to the Iroquois tribes is now generally conceded.

Twelfth. The testimony of the mounds is very decidedly against the theory that the mound builders were Mayas or Mexicans, who, driven out of this region by the pressure of Indian hordes, migrated to the